

Municipal Action Levels & Assessing Compliance and Effectiveness

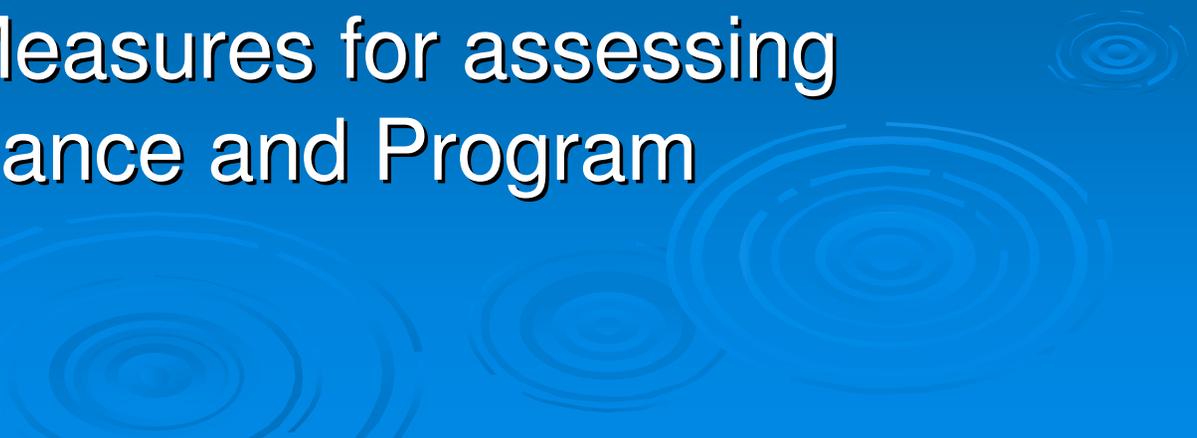
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Presentation Outline

- California Stormwater Quality Association
 - MALs – Purpose and Derivation
 - California Water Board's Expert Blue Ribbon Panel Findings
 - Ventura MS4 draft permit
 - Quantifiable Measures for assessing Permit Compliance and Program Effectiveness
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California Stormwater Quality Association

- Founded as the Stormwater Quality Task Force – official technical advisory body to State Water Board
- Nonprofit public benefit 501(c)(3) corporation
- Professional member association dedicated to the advancement of stormwater quality management through:
 - collaboration,
 - education,
 - regulatory review,
 - implementation guidance,
 - and scientific assessment.
- Specific purpose is to assist those entities charged with stormwater quality management responsibilities with the development and implementation of stormwater quality goals and programs
- Practitioners of stormwater quality management
- Technical focus

Collaboration / Education / Implementation guidance / Scientific assessment

➤ Meetings

- General Membership meetings (1991-)
- Workshops (BMP Handbooks, ASBS)
- Conferences (2005-)

➤ Guidance

- BMP Handbooks (3/93 and 1/03)
- Retail Gasoline Outlet (RGO) BMP Guide (3/97)
- Construction Stormwater Sampling & Analysis Guidance (10/01)
- Effectiveness Assessment White Paper (10/05)
- Resource Library – Public education materials (12/05)
- Stormwater Monitoring and Research Priorities (3/07)
- Effectiveness Assessment Manual (4/07)

Municipal Action Levels – Purpose and Derivation



Expert Blue-Ribbon Panel Findings

"It is not feasible at this time to set enforceable numeric effluent criteria for municipal BMPs and in particular urban discharges....."

For catchments not treated by a structural or treatment BMP, setting a numeric effluent limit is basically not possible.

Expert Blue-Ribbon Panel Findings (cont')

- Action Level as defined by Panel
 - Used to identify the “bad actor catchments”
 - Functionally same as an “upset value”
- 3 approaches suggested for developing action levels
 - Consensus based
 - Ranked percentile distribution (90% value)
 - Statistically based population parameters

Expert Blue-Ribbon Panel Findings (cont')

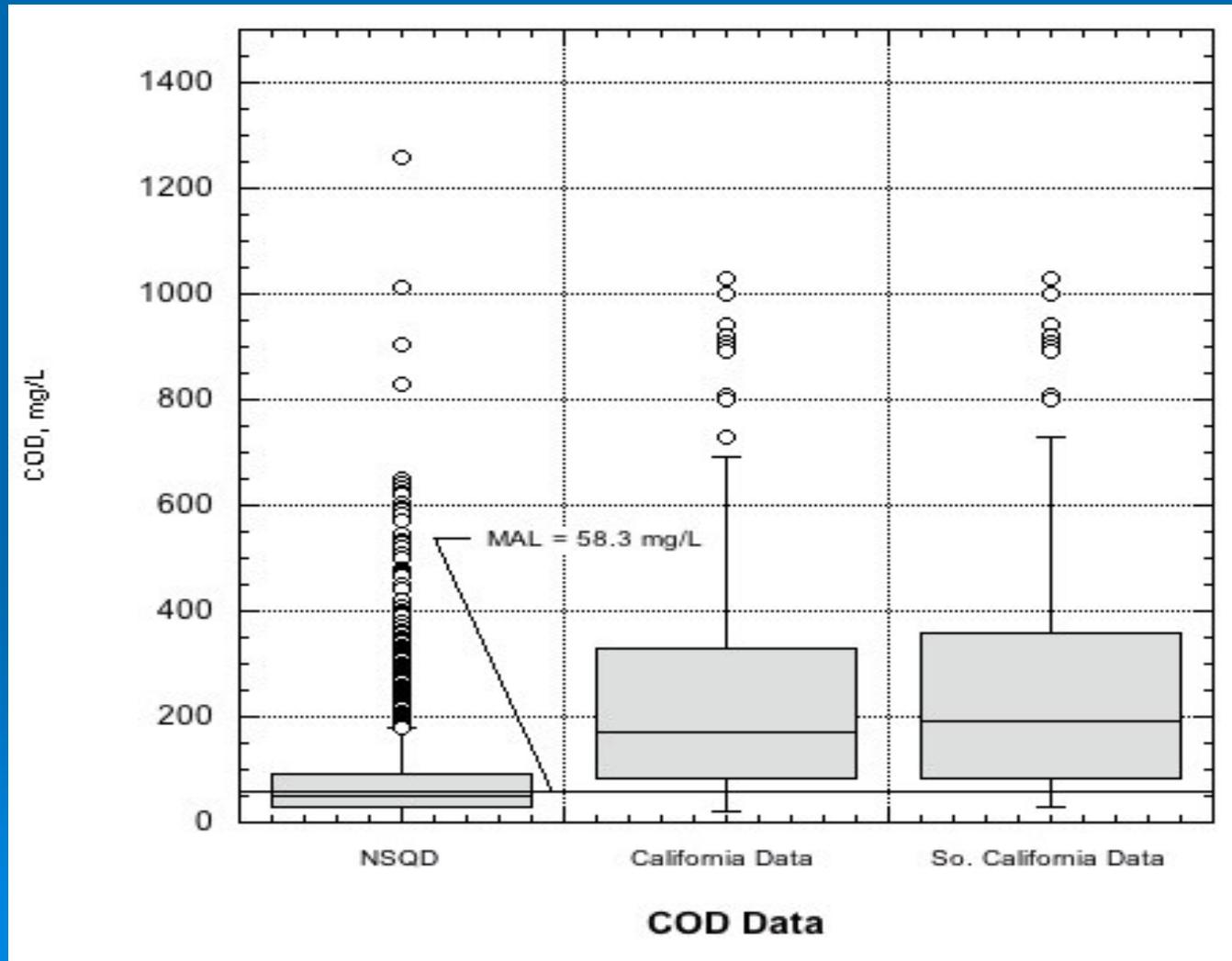
- Recommended Database for establishing “upset values” (in order of preference)
 1. Local urban stormwater monitoring data
 2. Combine municipal permit monitoring data when insufficient local data
 3. National database
- Ventura draft permit reflects the third preferred dataset

National vs. Local Datasets

- National datasets demonstrates local differences (COD)

EPA Rain Zone	Location	Average (mg/L)
3,7	SE and NW	44
2,4,5	TX, MidAtlantic	72
6	CA, AZ	162
National		74

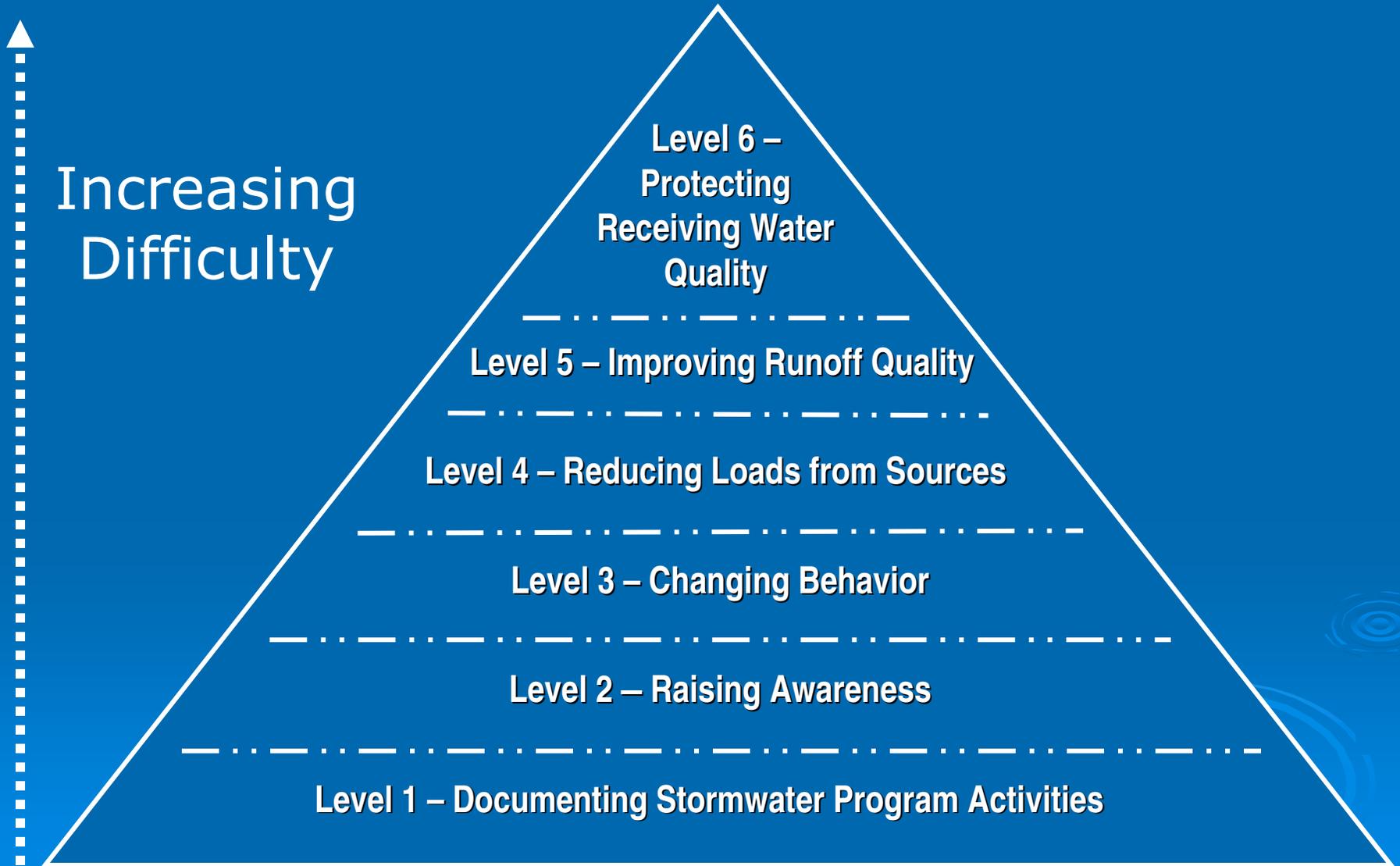
California Data is Different (> 99.9% probability that means are different)



Quantifiable Measures for assessing Permit Compliance and Program Effectiveness



Assessment Outcome Levels



Attributes of Assessment Method

➤ Assess

- Effort (Outcome Level 1)
- Achievement (Outcome Levels 2 - 6)

➤ Type

- Narrative or qualitative
- Numeric or quantifiable

➤ Progress

- Effort → Achievement
- Qualitative → Numeric or quantifiable

Challenges to measuring stormwater program effectiveness (Cause –?→ Effect) (Action –?→ Outcome)

- Degrees of separation phenomenon
- Complicating effects of integrating all inputs
- Outcome Level is defined by:
 - Type of BMP being measured
 - Power of BMP

Implementation Success Story: Pesticides and Stormwater

- By 2006 – Aquatic toxicity and diazinon concentrations in urban creeks have decreased dramatically – in many cases below TMDL targets - Level 6 Outcome – Protecting receiving water quality
- USEPA and DPR changing the way pesticides are regulated to address/prevent water quality problems / Retailer data show less-toxic product sales ↑ - Level 3 Outcome – Changing behavior
- Surveys - Level 2 Outcome – Raising awareness

Action Levels – Draft Examples

Program Element	Outcome Level	Goal	Examples of Defining Quantifiable Measure	Action Level
Construction	Level 1 – Documenting Activities	Provide frequent inspection of construction sites	Percentage of all construction sites inspected according to specified schedule during wet season	90
	Level 3 – Changing Behavior	Increase the number of construction sites in compliance with BMP implementation and local stormwater requirements	<u>Upon first inspection</u> , percentage of construction sites in significant compliance with local construction stormwater requirements	(75% >1 ac. / 50% < 1 ac.)
			Percentage of State permitted sites that have a completed SWPPP for each site (document during inspection)	80

Action Levels – Draft Examples

Program Element	Outcome Level	Goal	Examples of Defining Quantifiable Measure	Action Level
Illegal Discharges / Illicit Connections	Level 3 – Changing Behavior	Respond rapidly and efficiently to illicit discharges	% of illicit discharges impacting human health responded to within 24 hours upon receiving notification	80
		Eliminate all illegal connections	% of illegal connections eliminated or permitted once detected	80

Summary

- MALs are numeric effluent limits with significant implications for MS4s
- Draft Ventura Permit differs from the Blue Ribbon Panel Recommendations
 - Purpose of “Action Levels”
 - Application to MS4s
 - Dataset for developing MALs inappropriate

Opportunity

- There is a viable approach for developing quantifiable measures for program implementation and demonstrating progress towards water quality protection
- Embraced by San Diego Water Board; incl. in State Water Board Construction General Permit; considered by other Water Boards
- CASQA is fleshing out the details now

Thank you

